Figure 1

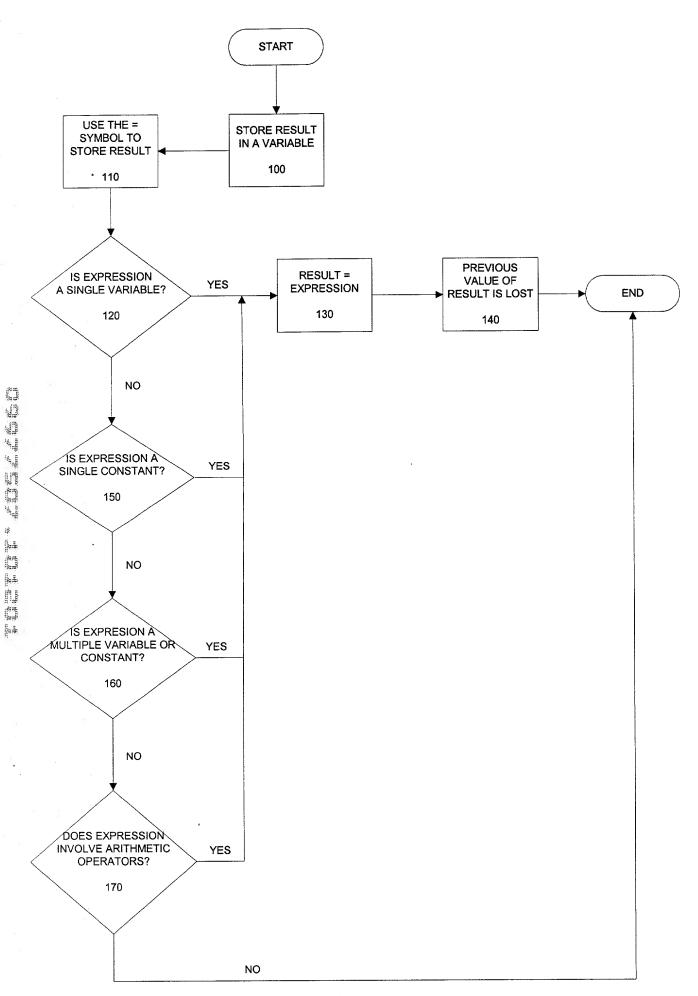
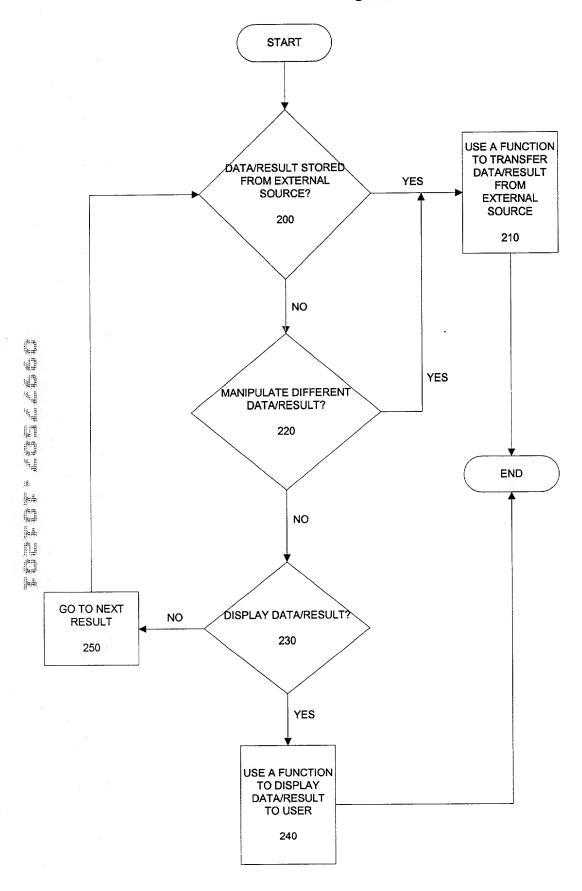
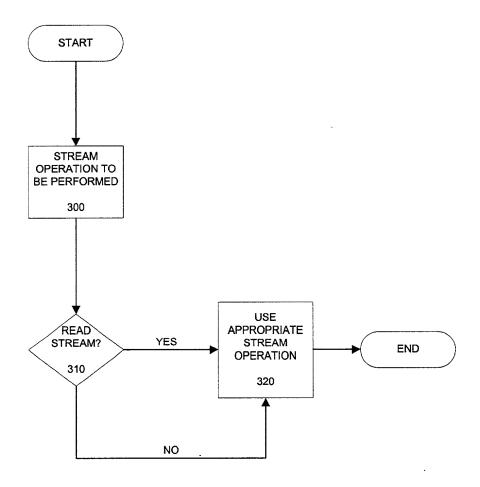


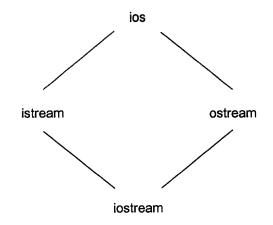
Figure 2



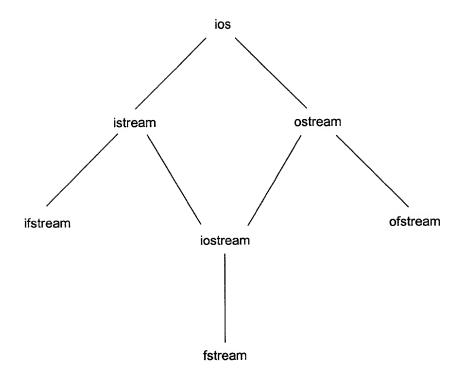
### Figure 3



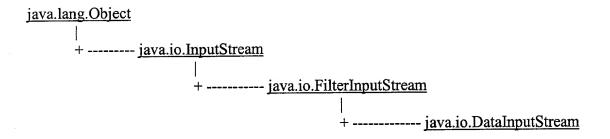
### **FIGURE 4A**



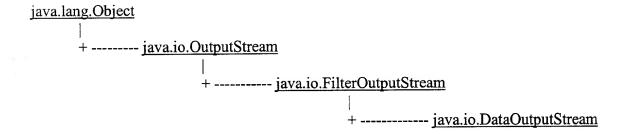
#### **FIGURE 4B**



#### FIGURE 5A



#### **FIGURE 5B**



## FIGURE 6A

Function	Purpose
openin (filename)	Open the named file for input
openout (filename)	Open the named file for output
openup (filename)	Open the names file for update (reading and writing)
openfd (fd)	Open the integer file descriptor as a stream
open (filename, mode)	Open the named file with the given integer mode

## FIGURE 6B

Function	Meaning
Network.open (addr,port)	Open an active network connection (TCP)
Network.openServer (addr, port, type)	Open a passive network connection (TCP or UDP
Network.lookupName (name)	Consult a naming service to convert a network name to an address
Network.lookupAddress (ipaddr)	Consult a naming service to convert an integer IP address into a host name
Network.accept()	Wait for and accept an incoming connection
Network.openSocket()	Open a UDP client socket for sending datagrams
Network.send (socket, addr, port, buffer)	Send a UDP datagram to the given socket. The addr and port specify the recipient. The buffer is the string to send
Network.receive (socket, var addr, var port, maxbuffer = 4096)	Wait for an incoming UDP datagram. Blocks until a datagram is received, then returns the data as a string. Also sets the addr and port to the sending address. The maxbuffer argument specifies the max size of data that can be received
Network.peek (socket, var addr, var port, maxbuffer = 4096)	As receive, but don't extract the data from the network. A call to receive() will read the data.
Network.formatIPAddress (addr)	Build a string of the form n.n.n.n out of an integer IP address.

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Data type	Reading	Writing
integer	Decimal integer converted to binary	Decimal integer
string	Whole line read – terminated by line feed character which is discarded	Characters written to stream.
real	ASCII for real value	Written as ASCII
char	Single character	Single character
vector	Each line of file appended to vector - line feed is retained	Each element written
map	cannot read	Elements written as first = second
enumeration constant	cannot read	Name of enumeration constant

# FIGURE 8

Operation	Result
close (stream)	The stream is closed.
select (stream, timeout)	Returns 1 if there is data waiting to be read
	from stream. Times out after timeout
	microseconds.
eof (stream)	Returns 1 if the stream is at the end of file.
flush (stream)	Flush the data remaining in the stream buffers.
getchar (stream)	Read a single character from the stream.
-	Returns the character read.
getbuffer (stream)	Read all the available characters in the stream
	buffer. Returns a string containing all the
	characters.
availableChars (stream)	Returns the number of characters in the buffer.
setStreamAttribute (stream, attr,	Set the value of a stream attribute.
value)	
rewind (stream)	Rewind the stream to the start.
seek (stream, offset, whence)	Move to a new position in a seekable stream.

## FIGURE 9 - Page 1

integer real real converted to integer string string converted to integer first element converted to integer map first element converted to integer char converted to integer block integer set to address enumconst index into enumeration object call tolhteger() if present, otherwise address of object stream one integer read from stream  real copied string string converted to real if possible, 0.0 otherwise first element converted to real real copied string string converted to real insteger converted to integer then real object one integer then real object toReal() called if present, error otherwise stream one floating point number read from stream  string integer converted to string real converted to string real converted to string string copied vector each element appended to string map each element appended to string converted to string name of block enumconst object toString() called if present, blockname@address if not stream one line read from stream  char integer truncated to 8 bits real runtime error first element converted to char	0.4	Instant true	Operation
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string first character in string vector first element converted to char		. •	runtime error
vector first element converted to char		string	first character in string
		_	,
		map	
block first character of name		_	first character of name
enumconst 'A' = first const, 'B' = second, etc		enumconst	'A' = first const, 'B' = second, etc
object toChar() called if present, error if not		object	
stream one char read from stream		•	-

# FIGURE 9 - Page 2

Output type	Input type	Operation
Output type	Input type	toVector() called if present, otherwise object appended
vector	object	to vector
100 mg/mm	onsything	appended to vector
	anything	appended to vector
map	object	toMap() called if present, otherwise appended
177 Japan 1986	anything	appended as $\{x = x\}$
aphanes que apartir (		of Francisco (Control of Control
function	scalar	function called with single argument
	vector	function called once for each element. Element passed
	i P	as parameter
	map	function called for each element. Function has to
	4 4 5 5 8 8	arguments for left and right of map pair.
	stream	function called for each line of input
thread -		like function
		111 . C
class		like function only new object created for each
Takes		like class
package		IIRC Class
enum	i n	runtime error
		Talliani offici
enumconst		runtime error
object		runtime error
stream	integer	converted to decimal character sequence
	real	converted to floating point character sequence
	string	each character written
	char	single character written
	» vector	each element written
	map	each element written as left = right
	block	block name written
	enumconst	name of constant written
	object	"object " + address written
	stream	steam copied .

Figure 10

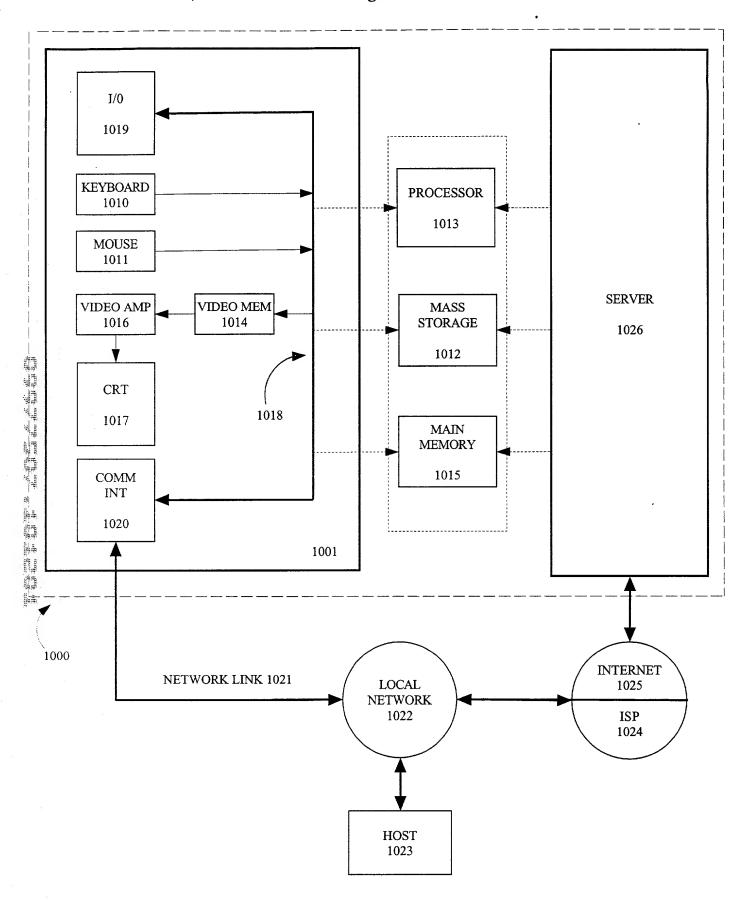
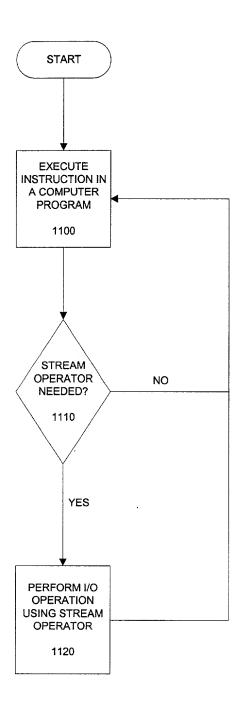


Figure 11



#### Figure 12

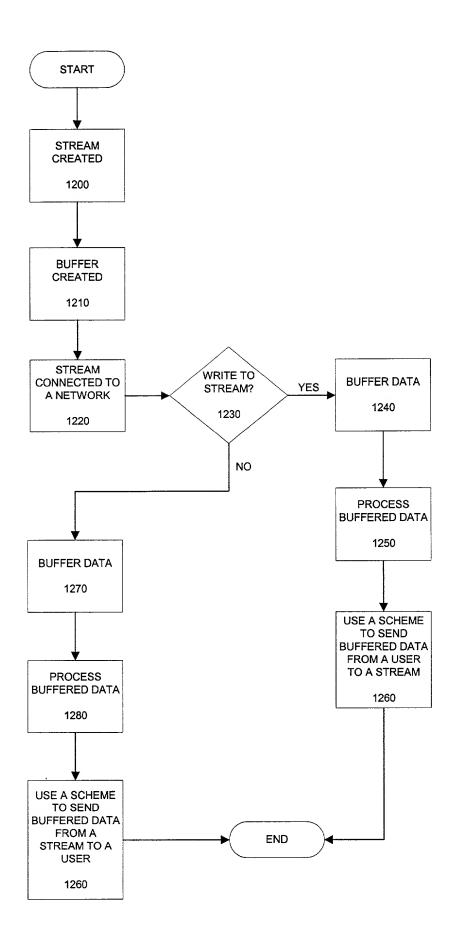
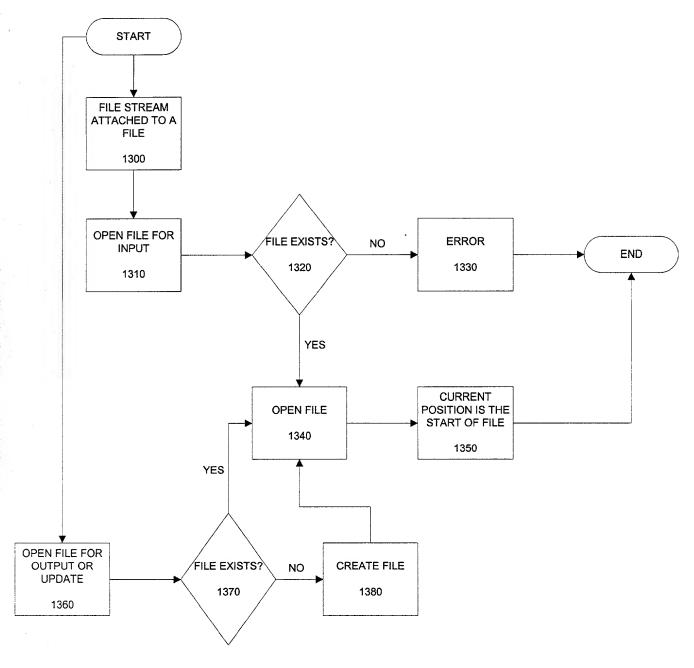


Figure 13



And then the the the same of the tend than then then beard that their

#### Figure 14

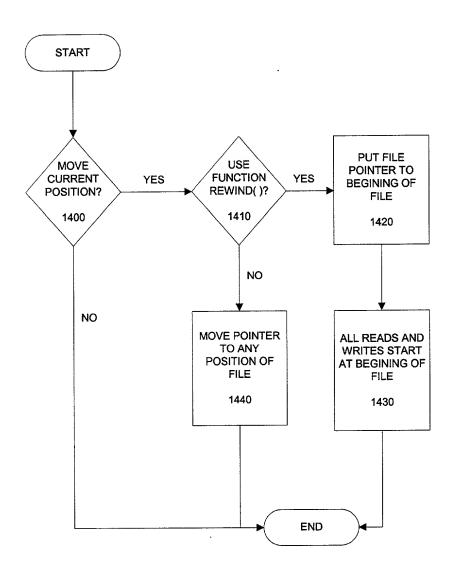


Figure 15

